REPORT

Revision to Permit No. M01-52
Western Stege Marsh Remediation and Restoration Project
Richmond, California

San Francisco Bay Conservation and Development Commission

June 2003

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Revision to Permit No. M01-52 Western Stege Marsh Remediation and Restoration Project Richmond, California

San Francisco Bay Conservation and Development Commission

June 2003

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June 26, 2003

Mr. Bob Batha
San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111

Subject: **Revision to Permit No. M01-52**
West Stege Marsh Remediation and Restoration Project
Richmond, California

Dear Mr. Batha:

Blasland, Bouck & Lee (BBL) and URS Corporation (URS), on behalf of the University of California, Berkeley (UC Berkeley) and Zeneca Inc. (Zeneca) is requesting a modification to the existing permit (M01-52) for the remediation of the Meade Street Operable Unit located in Richmond California. The Meade Street Operable Unit (MSOU) as designated by the RWQCB Orders No. 01-101 and 01-102, consists of the UC Berkeley Richmond Field Station (RFS) and the adjacent property to the east. The location of the RFS is shown on Figure 1.

The MSOU was divided under the Orders into Subunits 1 and 2. The location and boundaries of the subunits are shown on Figure 2. Subunit 1 encompasses the former Zeneca property (which was purchased in 2002 by Cherokee Simeon Ventures (CSV)) including Eastern Stege Marsh. Subunit 2 encompasses the RFS and Western Stege Marsh. Subunit 2 was further divided into Subunit 2A and 2B as shown on Figure 3. Zeneca is responsible for Subunit 1, UC Berkeley is responsible for Subunit 2B, and both Zeneca and UC Berkeley are co-responsible for Subunit 2A.

The original permit was issued to Zeneca on June 27, 2002 which authorized various remedial activities for Subunit 1 and the removal and replacement of approximately 12,000 cubic yards of sediment in Subunit 2A. A copy of Permit M01-52 is provided in Attachment A. The area covered under the original Joint Aquatic Resource Agency Permit application prepared by LFR on behalf of Zeneca is shown on Figure 4. After the issuance of the permit, UC Berkeley performed additional characterization within the marsh portion of Subunit 2A as required by Order No. 01-102. The results indicated that a larger area contained elevated levels of metals. The results of the additional investigation showing the additional sample locations and samples exceeding the site-specific target levels for the protection of the marsh wildlife are shown on Figure 5.

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Based on these results, a permit revision was requested by UC Berkeley on September 4, 2002 to expand the volume of material to be removed from the marsh portion of Subunit 2A Berkeley as a co-permittee since the work was being performed on their property. A copy of this request is provided in Attachment B. A photo showing the condition of the Subunit 2A marsh prior to remediation is shown on Figure 6.

Under the RWQCB Order No. 01-102, it was anticipated that the remedial activities would be completed in two years. The first year's activities, Phase 1, would include the investigation and remediation of Subunit 2A. In addition to the Subunit 2A activities, it was assumed that the characterization of Subunit 2B would be completed in Phase 1 and the remedial activities would be completed in Phase 2. However, in light of the results of the investigation work performed in Subunit 2B, and due to the extensive distribution of contaminants in Subunit 2B, it was soon realized the work would require additional phases to complete. Other limiting factors include, the restricted construction season due to the presence of the California Clapper rail *(Rallus longirostris obsoletus)* and the onset of the rainy season; limited funding available to UC Berkeley due to the State budget crises, and ongoing negotiations with the RWQCB regarding appropriate cleanup levels and extent of areas requiring cleanup. Figure 7 shows the areas to be completed under the current plan of 5 phases.

In 2002, Phase 1 work in Subunit 2A was not completed as planned due to the restricted construction season by United Fish and Wildlife Service (USFS), and because UC Berkeley used Zeneca's contractor who also performed the remedial work for Subunit 1 which was a much larger project. The areas completed during Phase 1 include Area 1 and Area 3, and the eastern portion of Area 2, as shown on Figure 8. In addition to these areas, the permit also included Area 4 as described in the original permit application submitted by LFR (Figure 4). Therefore, we are requesting that a permit modification be granted to complete the work in Subunit 2A and two additional areas within the marsh portion of Subunit 2B. The following provides a description of the work proposed for Phase 2.

Proposed Work

The following work is planned for 2003 (Phase 2) under the requested modification to the existing permit. The remainder of Subunit 2A is proposed for remediation in 2003 as required by UC Berkeley's agreement with Zeneca. In addition to previously authorized work in Subunit 2A, two additional areas in Subunit 2B, M1a and M3, are proposed for remediation in 2003. Area M3, located directly adjacent to Subunit 2A, is proposed for remediation due to the elevated concentrations of metals (arsenic up to 1,800 mg/kg) and mercury (up to 1,800 mg/kg) in the sediment, and the similarity of the required treatment

technology to stabilize the chemicals of concern (COCs). Area M1a which encompasses an area of approximately 40 feet by 45 feet is proposed for completion in 2003 as a source control measure. The sediments within M1a contain elevated levels of PCBs, (up to 61,000 mg/kg) that pose an ecological risk. Due to its proximity to the western storm drain outfall, the potential for the storm water discharge into this area could cause migration of PCBs into Meeker Slough is an immediate concern. The four areas proposed for remediation, along with the related treatment facilities are shown on Figure 8.

In preparation of the Phase 2 work, California clapper rail protocol level monitoring conducted under the direction of URS was performed in Western Stege Marsh in February 2003. This survey identified rails in Western Stege Marsh both inboard and outboard of the East Bay Regional Park District's (EBRPD) Bay Trail in the western portion of Western Stege Marsh near Meeker Slough (Jules Evens personal communication). We propose continuing the special conditions stipulated in the original Army Corps of Engineers Nationwide permit to minimize impacts to the Clapper rails, as follows:

- Remediation of upland portions of the 2003 work outside a 150-foot buffer prior to September 1; and
- Work within the marsh and the 150-foot buffer between September 1 and February 1.

It should be noted that we are requesting a deviation from the 150-foot buffer for one pre-remediation activity within Area 4 from the USFWS and the ACOE. We have requested that they allow the installation of an asphalt treatment pad across the 150-foot buffer line. As shown on Figure 8, a small portion of the treatment pad does fall within the 150-foot buffer. It is anticipated that the work will begin in August 2003. The installation of the asphalt pad will be performed in August near the end of the Clapper rail breeding season. It should be stressed that no work will occur in the marsh prior to September 1st. The work will include excavating a small hot spot area under the pad, installation of the portion of the new sewer line that will be under the pad, installation of the asphalt base, and paving of the treatment pad. The work is expected to be completed in approximately one to two weeks, but must be completed prior to excavating and treating contaminated material from Area 4 outside the 150-foot buffer.

Once the treatment pad is installed, the excavation of the upland portion of Subunit 2A outside of the 150-foot buffer zone (Figure 8) will begin. All work will be performed in accordance with USFWS recommendations from last year. This work includes the following:

- Excavation of a portion of Area 4;
- Replacement of the western portion of the sanitary sewer line; and
- Construction of the asphalt treatment pad.

Work in the marsh, scheduled to begin after September 1, 2003, will include the remainder of Area 2, M1a, and M3. The areas and volumes comprising the 2003 remedial action are summarized in Table 1 below. The total volume proposed for removal is approximately 14,700 cubic yards and the total area is approximately 1.3 acres within BCDC's jurisdiction. The following table provides a breakout for each of the areas to be completed during Phase 2 (fall of 2003).

Table 1 Areas and Volumes Proposed for Remedial Work in 2003, within BCDC Jurisdiction

Remedial Unit	Volume (yd^3) in Bay	Area (ft^2) in Bay	Volume (yd^3) 100-ft shoreline band	Area (ft^2) 100-ft shoreline band
2A	7,100	40,100	7,200	23,000
M3	7,300	16,900	4,700	15,000
M1a	300	1,800	none	none
Total	14,700	58,800	11,900	38,000

As stated above, the remedial program in the marsh portion Subunit 2B is anticipated to take three more fall construction seasons to complete. The schedule of the phased program is shown on Figure 7. Since the extent of areas requiring removal has not been established by the RWQCB, it is not possible to identify the total number of acres that will be disturbed and remediated at this time. We are working closely with the RWQCB to develop cleanup levels and identify the areas of concern that will require removal. Once this has been established with the RWQCB staff, a final mitigation plan can be developed.

In the interim, we have prepared a conceptual marsh restoration design shown on Figure 9. We anticipate that the final cleanup levels and areas requiring remedial action will be resolved by this fall. We will then prepare a final permit application for the entire Richmond Field Station Remediation Project encompassing all phases outlined in the CEQA Initial Study currently in public and agency review. We will be working closely

with the RWQCB, ACOE, USFWS, and BCDC to develop a final marsh design and habitat mitigation and monitoring plan for Western Stege Marsh.

Therefore, to continue the cleanup of this high-priority toxic hot spot, we respectfully request this permit modification to allow for the completion of previously permitted work (remainder of Subunit 2A) and the addition of the areas in Subunit 2B (Areas M3 and M1a) as described above.

We appreciate your consideration of this request. Please call me at (925) 274-1100 if you have any questions.

Sincerely,

for

Diane K. Mims
Associate/Sr. Engineer

Attachments:
Attachments A and B
Figures

Cc: Mike Hryciw, Capital Projects, University of California Berkeley
Mark Frieberg, Environment, Health, and Safety, UC Berkeley
Karl Hans, Environment, Health, and Safety, UC Berkeley
Anna Moore, Environment, Health, and Safety, UC Berkeley
Pat Schlesinger, University Counsel, University of California General Counsel
Mary Esper, URS Corporation
Jane Anderson, Zeneca Inc.
Bill Carson, LFR
Cecil Felix, Regional Water Quality Control Board
Molly Martindale, USACOE
Dan Buford, USFWS
Bob Batha, BCDC
File

Reference

Jules Evens. Personal Communication February 27 and March 11, 2003. Ornithologist, Avocet Research Associates, report in progress

A:\BCDCpermit_mod_rev final_6_26_03.doc

ATTACHMENT A

STATE OF CALIFORNIA GRAY DAVIS, *Governor*

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
50 CALIFORNIA STREET, SUITE 2600
SAN FRANCISCO, CALIFORNIA 94111
PHONE: (415) 352-3600
http://www.bcdc.ca.gov

VC3

Permittees' Copy

PERMIT NO. M01-52

June 27, 2002

Zeneca Inc.
P.O. Box 15437
Wilmington, DL 19850

ATTENTION: Lee Erikson

Dear Mr. Erikson:

I. Authorization

A. Subject to the conditions stated below, the permittee, Zeneca Inc., is hereby authorized to do the following:

Location: In the Bay and within the 100-foot shoreline band, in the area in and around East and West Stege Marsh, at the Zeneca Richmond Facility, in the City of Richmond, Contra Costa County.

Description: In preparation for future restoration of East Stege Marsh and West Stege Marsh and development of the adjoining upland area, conduct soil remediation activities as mandated by the San Francisco Bay Regional Water Quality Control Board, including: (1) excavating 12,000 cubic yards of spent pyrite ore (cinders) from a 7,500-square-foot area in the east end of West Stege Marsh: (2) backfilling the 7,500-square-foot area in West Stege Marsh with approximately 12,150 cubic yards of clean fill to raise the area to an elevation approximately six inches higher than current elevations to prevent water from ponding in this area; (3) regrading the east bank of West Stege Marsh to create a less abrupt slope to foster the growth of transitional marsh plants; (4) excavating approximately 6,700 cubic yards of cinders from an approximately 28,500-square-foot, upland area between East Stege Marsh habitat and West Stege Marsh to create additional transitional marsh habitat; (5) preserving an approximately 20-foot-wide area between East Stege Marsh and West Stege Marsh for a future public access path with landscaped buffers between the path and the marsh; (6) excavating cinders from the northwest corner of East Stege Marsh as necessary, backfilling with clean soil, and grading to current elevations;

(7) excavating cinders within the shoreline band as necessary, and providing public access detours and signage where feasible; and (8) installing a biologically active permeable barrier within the shoreline band, along the southern edge of the upland portion of the site.

B. This authority is generally pursuant to and limited by your application dated September 17, 2001, and received in our office on September 20, 2001, including its accompanying exhibits and all conditions of this permit.

C. Work authorized herein must commence prior to June 25, 2004, or this permit will lapse and become null and void. Such work must also be diligently pursued to completion and must be completed within one year of commencement, or by June 25, 2005, whichever is earlier, unless an extension of time is granted by amendment of the permit.

II. Special Conditions

The authorization made herein shall be subject to the following special conditions, in addition to the standard conditions in Part IV:

A. **Public Access.** The permittee shall make every effort to minimize closures and impacts to the existing shoreline trail and connecting trails during project construction. These existing public access trails shall be open to the public after work hours and on weekends, whenever possible. Any closure of these trails exceeding two days must be approved by or on behalf of the Commission. In addition, signs shall be installed at all public access entrances informing the public of why the area is closed, when it will be open, possible detours, and when project construction will be completed. Upon completion of construction, the public access trails shall be restored to the condition they were in prior to commencement of construction.

B. **Notice to Contractor.** The permittee shall provide a copy of this permit to any contractor or person working in concert with the permittee to carry out the activities authorized herein and shall point out the special conditions contained herein.

C. **Marsh Protection.**

1. **Best Management Practices.** All construction operations shall be performed to prevent construction materials from falling, washing, or blowing into the Bay. In the event that such material escapes or is placed in an area subject to tidal action of the Bay, the permittee shall immediately retrieve and remove such material at its expense. The permittee shall also employ best management practices, such as compaction, installation of an engineered containment system and/or a biologically active permeable barrier, etc. to assure that material placed upland will not erode into the Bay or leach into other water sources.

2. **Marsh and Upland Plant Protection During Construction.** The work authorized by this permit shall be performed in a manner that will prevent, avoid, or minimize to the extent possible any significant adverse impact on any tidal marsh, other sensitive wetland resources, and existing native upland vegetation. If any unforeseen adverse impacts occur to any such areas as a result of the activities authorized herein, the permittee shall restore the area to its previous condition, including returning the disturbed area to its original elevation and soil composition and, if the area does not revegetate to its former condition within one year, the permittee shall plant all disturbed areas with appropriate native

vegetation at appropriate elevations consistent with plans approved by or on behalf of the Commission. The permittee shall minimize impacts to wetland areas by minimizing all traffic in marsh areas.

3. **Protection of Nesting Shorebirds.** No work on the restoration site shall occur during the Clapper Rail breeding season, from February 1st through August 31st. Authorized remediation work that takes place from August through February must be conducted consistent with any additional Unites States Fish and Wildlife Service restrictions on the project, such as the requirement to create buffer zones around marsh areas.

D. **Marsh Restoration.** This permit is issued based, in part, on information from the permittee and its representatives that a future, large-scale restoration project will be conducted in East Stege Marsh and West Stege Marsh. This large scale restoration effort shall include monitoring of the areas in East Stege Marsh and West Stege Marsh restored pursuant to this authorization. In the event that the Commission does not receive an application for such restoration work by June 25, 2004, the permittee shall submit to the Commission a monitoring plan for any remediation and/or excavation areas authorized herein within East and West Stege Marsh, to be approved by on behalf of the Commission. Such monitoring plan shall include a minimum of five years of monitoring, measuring the sedimentation rate, percentage of the site revegetated, plant survival, approximate percentage representation of different plant species, and a plan for removing undesirable exotic plant species such as pepperweed (*Lepidum latifolium*), *spartina alterniflora*, pampas grass, and broom.

E. **Hold Harmless Agreement.** The permittee agrees to indemnify, defend and save harmless the State of California, its agencies, departments, officers, agents and employees from any and all claims, demands, losses or judgments accruing or resulting to any person, firm, corporation or entity who may be injured or damaged by work performed in accordance with the terms and conditions of this permit.

F. **Recording.** The permittee shall record this document or a notice specifically referring to this document on all parcels affected by this document with Contra Costa County within 30 days after execution of the permit issued pursuant to this authorization and shall, within 30 days after recordation, provide evidence of recordation to the Commission.

III. Findings and Declarations

On behalf of the Commission, I find and declare that:

A. The project authorized by this permit involves excavating approximately 12,000 cubic yards of contaminated soils from a tidal marsh and adjoining upland area, disposal of the excavated soils at an upland location outside of the Commission's jurisdiction, and restoration of the excavated area, and thus involves new dredging of less than 100,000 cubic yards as defined in Regulation Section 10602(b), disposal of the dredged material at a non-aquatic location, as defined in Regulation Section 10602(e), a similar activity, as defined in Regulation Section 10601(e)(3) with no greater adverse impacts on the Bay than the placement of new protection works to fish or wildlife habitat, as define din Regulation Section 10601(2)(A), and the placement of small amounts of inert inorganic fill in the shoreline band that does not have a significant adverse effect on present or possible future maximum feasible public access, as defined in Regulation Section 10601(b)(1). The project also authorizes installing a new outfall, as defined in Regulation Section 10602(a)(4), and thus is a "minor repair or improvement" for which the Executive Director may issue a permit,

Regional Water Quality Control Board and to improve existing environmental conditions at East and West Stege Marsh by removing and/or neutralizing soils contaminated by spent pyrite ore. In achieving this purpose, the project will require some excavation and grading near and in a tidal marsh. Therefore, Special Conditions II.B, C, and D are included to ensure that any adverse impacts to the marsh and the wildlife it supports are reduced and mitigated. The project involves installation of a new outfall under the existing Bay Trail, requiring closure of the Bay Trail for one to two days. Special Condition II.A. is included to ensure that the trails users are adequately notified of the closure and provided with an alternative route around the closure. Thus, the impact of the public access closure will be minimal.

Even though the purpose of the project is to comply with a Regional Board cleanup order, the site cleanup will make the upland portion of the site more attractive for future development, and future development, is anticipated for the site. In anticipation of future site development, a twenty-foot-wide berm will remain between East and West Stege Marsh to provide pedestrian access from the inland portion of the site to the existing Bay Trail. A 12-foot-wide berm was originally proposed, but it was determined that 12 feet would not provide an adequate buffer zone between trail users and the marsh.

C. The Commission further finds, declares, and certifies that the activity or activities authorized herein are consistent with the Commission's Amended Management Program for San Francisco Bay, as approved by the Department of Commerce under the Federal Coastal Zone Management Act of 1972, as amended.

D. Acting as the lead agency, the Regional Water Quality Control Board prepared an order for site cleanup and assigned the project a Categorical Exemption from CEQA pursuant to Section 15308, Title 14 of the California Code of Regulations. Although the site cleanup is, in part, planned as the first step toward preparing the project site for future marsh restoration and upland development, the cleanup and any future work on the project site do not constitute a whole project, but rather two distinct, individual projects. The cleanup was ordered by the Regional Board and would be undertaken even if future site development was not planned. At present, any future development of the remediated site is speculative. Therefore, a Categorical Exemption for the cleanup alone is consistent with CEQA.

E. Pursuant to Regulation Section 10620, this project was listed with the Commission on May 16, 2002.

IV. Standard Conditions

A. All required permissions from governmental bodies must be obtained before the commencement of work; these bodies include, but are not limited to, the U. S. Army Corps of Engineers, the State Lands Commission, the Regional Water Quality Control Board, and the city and/or county in which the work is to be performed, whenever any of these may be required. This permit does not relieve the permittee of any obligations imposed by State or Federal law, either statutory or otherwise.

B. The attached Notice of Completion and Declaration of Compliance form shall be returned to the Commission within 30 days following completion of the work.

C. Work must be performed in the precise manner and at the precise locations indicated in your application, as such may have been modified by the terms of the permit and any plans approved in writing by or on behalf of the Commission.

D. Work must be performed in a manner so as to minimize muddying of waters, and if diking is involved, dikes shall be waterproof. If any seepage returns to the Bay, the permittee will be subject to the regulations of the Regional Water Quality Control Board in that region.

E. The rights, duties, and obligations contained in this permit are assignable. When the permittee transfers any interest in any property either on which the authorized activity will occur or which is necessary to the full compliance of one or more conditions to this permit, the permittee/transferor and the transferee shall execute and submit to the Commission a permit assignment form acceptable to the Executive Director. An assignment shall not be effective until the assignee executes and the Executive Director receives an acknowledgment that the assignee has read and understands the permit and agrees to be bound by the terms and conditions of the permit, and the assignee is accepted by the Executive Director as being reasonably capable of complying with the terms and conditions of the permit .

F. Unless otherwise provided in this permit, all the terms and conditions of this permit shall remain effective for so long as the permit remains in effect or for so long as any use or construction authorized by this permit exists, whichever is longer.

G. Unless otherwise provided in this permit, the terms and conditions of this permit shall bind all future owners and future possessors of any legal interest in the land and shall run with the land.

H. Unless otherwise provided in this permit, any work authorized herein shall be completed within the time limits specified in this permit, or, if no time limits are specified in the permit, within three years. If the work is not completed by the date specified in the permit, or, if no date is specified, within three years from the date of the permit, the permit shall become null and void. If a permit becomes null and void for a failure to comply with these time limitations, any fill placed in reliance on this permit shall be removed by the permittee or its assignee upon receiving written notification by or on behalf of the Commission to remove the fill.

I. Except as otherwise noted, violation of any of the terms of this permit shall be grounds for revocation. The Commission may revoke any permit for such violation after a public hearing held on reasonable notice to the permittee or its assignee if the permit has been effectively assigned. If the permit is revoked, the Commission may determine, if it deems appropriate, that all or part of any fill or structure placed pursuant to this permit shall be removed by the permittee or its assignee if the permit has been assigned.

J. This permit shall not take effect unless the permittee executes the original of this permit and returns it to the Commission within ten days after the date of the issuance of the permit. No work shall be done until the acknowledgment is duly executed and returned to the Commission.

K. Any area subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission under either the McAteer-Petris Act or the Suisun Marsh Preservation Act at the time the permit is granted or thereafter shall remain subject to that jurisdiction notwithstanding the placement of any fill or the implementation of any substantial change in use authorized by this permit.

L. Any area not subject to the jurisdiction of the San Francisco Bay Conservation and Development Commission that becomes, as a result of any work or project authorized in this permit, subject to tidal action shall become subject to the Commission's "bay" jurisdiction.

M. Unless the Commission directs otherwise, this permit shall become null and void if any term, standard condition, or special condition of this permit shall be found illegal or unenforceable through the application of statute, administrative ruling, or court determination. If this permit becomes null and void, any fill or structures placed in reliance on this permit shall be subject to removal by the permittee or its assignee if the permit has been assigned to the extent that the Commission determines that such removal is appropriate. Any uses authorized shall be terminated to the extent that the Commission determines that such uses should be terminated.

Executed at San Francisco, California, on behalf of the San Francisco Bay Conservation and Development Commission on the date first above written.

WILL TRAVIS
Executive Director
San Francisco Bay Conservation and
Development Commission

By: _____
ROBERT J. BATHA
Chief of Permits

RJB/LL/ra

cc: U. S. Army Corps of Engineers, Attn.: Regulatory Functions Branch
San Francisco Bay Regional Water Quality Control Board,
Attn.: Certification Section
Environmental Protection Agency, Attn: Mike Monroe, WTR-8
City of Richmond Planning Department
Brad Olson, East Bay Regional Parks District
Bruce Beyaert, Trails for Richmond Action Committee

* * * * * * * * * * * * * * * * * * * *

Receipt acknowledged, contents understood and agreed to:

Executed at _____ _____
Applicant

On _____ By: _____

_____
Title

ATTACHMENT B

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
OFFICE OF THE GENERAL COUNSEL

1111 Franklin Street, 8th Floor • Oakland, California 94607-5200 • (510) 987-9800 • FAX (510) 987-9757

James E. Holst
GENERAL COUNSEL

Writer's direct line: (510) 987-9737
E-mail: patrick.schlesinger@ucop.edu

September 4, 2002

DRAFT

Leslie Lacko
Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, California 94111

Re: Permit No. M01-52

Dear Ms. Lacko:

I am writing on behalf of the University of California, Berkeley to request several revisions to the June 27, 2002 Permit No. M01-52 issued by the San Francisco Bay Conservation and Development Commission.

Co-Permittee

Under section I.A – Authorization, The Regents of the University of California should be listed as a co-permittee with Zeneca Inc. because the work in West Stege Marsh will be performed on University property adjacent to the University's Richmond Field Station.

Description

The University and Zeneca have continued to revise their calculations of the amount of material that will be excavated and deposited in West Stege Marsh. Based on the more recent calculations, it appears that approximately 13, 300 cubic yards rather than 12,000 cubic yards will be removed from the marsh. In addition, it now appears that 10,900 cubic yards rather than 12,150 cubic yards of clean fill will replace the removed material. While certain localized areas may be increased in elevation to prevent ponding, in general, the elevation of West Stege Marsh will be returned to its former elevation or slight lower to achieve optimum pickleweed growth during the marsh restoration.

DRAFT

The University otherwise joins in the July 23, 2002 comments submitted by John D. Edgcomb on behalf of Zeneca Inc. Please contact me if you have any questions.

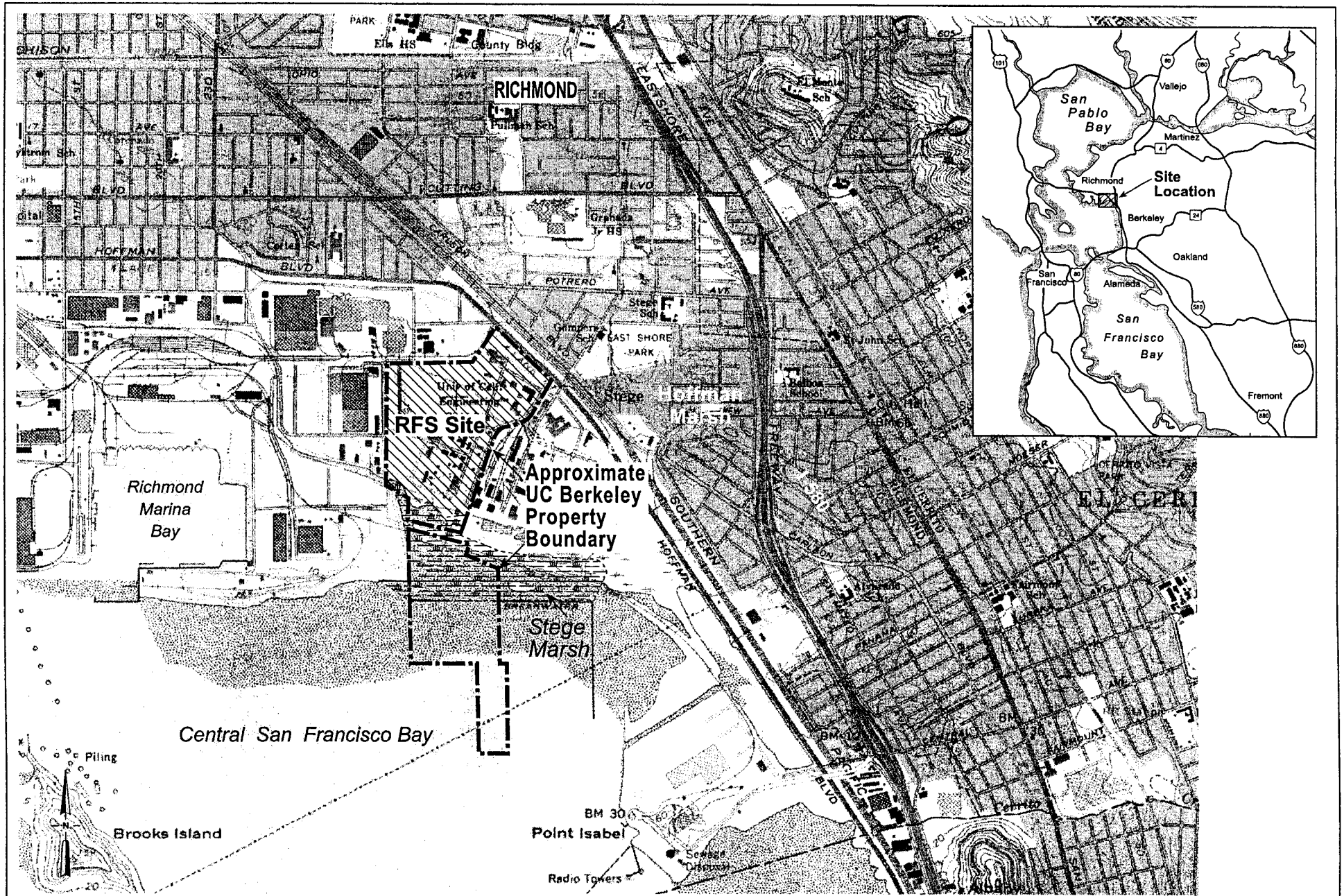
Sincerely,

Patrick Schlesinger
University Counsel

ps

cc: U.S. Army Corps of Engineers
Attn: Regulatory Functions Branch
San Francisco Bay Regional Water Quality Control Board
Attn: Certification Section
John Edgcomb, Esq.
Karl Hans, UC Berkeley
Brad Olson, EBRPD

91908.1



Map Source: USGS, 7.5 min. Quadrangle map, Richmond, California, 1980 revised

URS

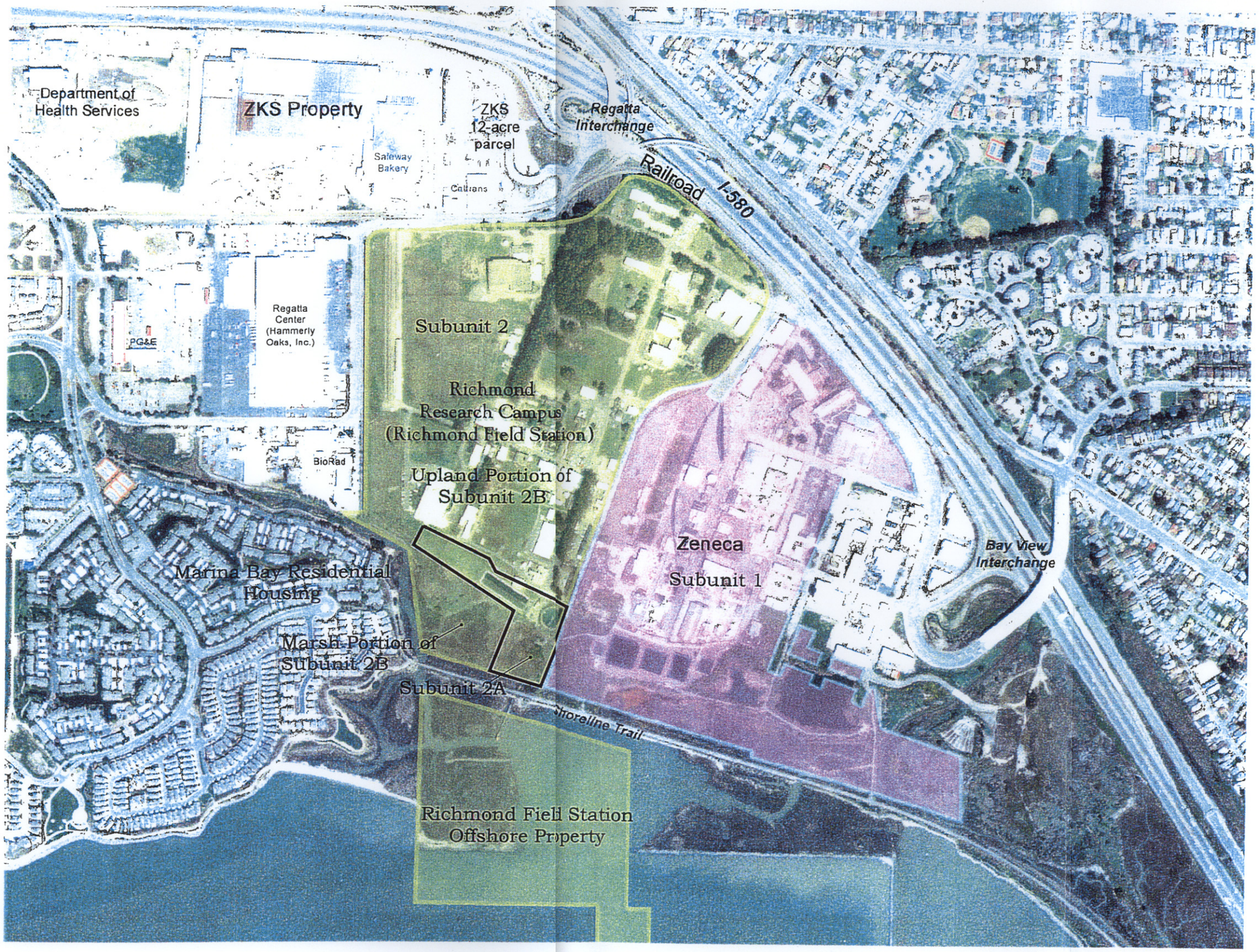
Project No. 26814100

UC Berkeley
Richmond Field Station

UNIVERSITY OF CALIFORNIA, BERKELEY
RICHMOND FIELD STATION
SITE LOCATION MAP

Figure 1

26814100-8A420/050703/gos



LEGEND

Zeneca Property (Subunit 1)

Richmond Field Station Property (Subunit 2 & Offshore Property)

N

Note: Offshore property located south of the EBRPD Bay Trail is not included within Subunit 2.
The boundary of Subunit 2a is approximate.

Project No.
26814100

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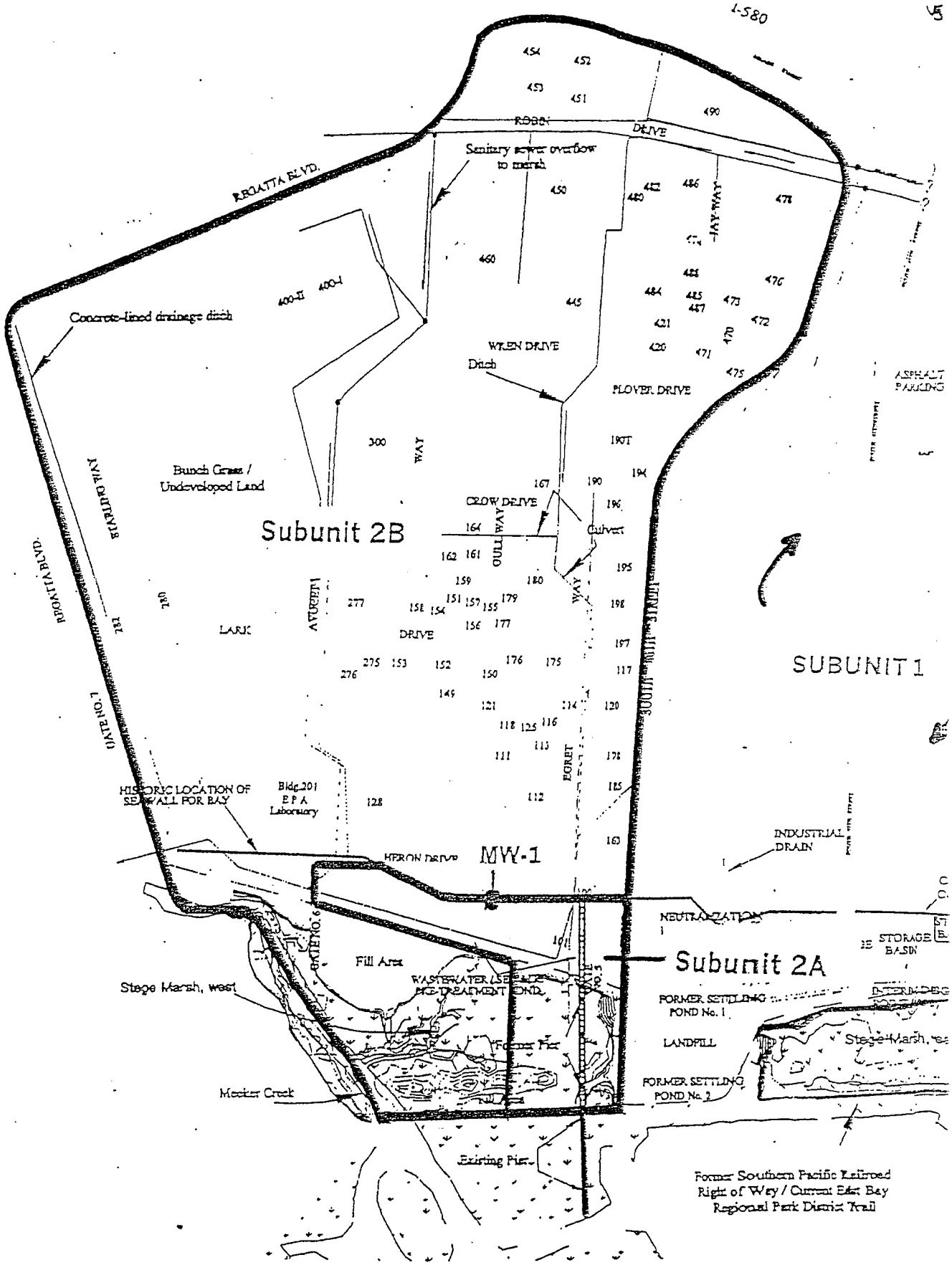
University of California, Berkeley
Richmond Field Station

URS

Subunits 2A and 2B Locations and Boundaries

March 2003 | not to scale | Figure 2



Subunits 2A and 2B
Locations and Boundaries

Figure 3

UC BERKELEY RICHMOND FIELD STATION

San Francisco Bay

WALKING PATH

2'

2'

2'

2'

600'

300'

200'

TREATMENT CELL 1

TREATMENT CELL 2

TREATMENT CELL 3

TREATMENT CELL 4

LEGEND

- Approximate Zeneca Richmond Facility property boundary
- 2' — Estimated thickness of cinder (feet); Depiction of cinders on UC Berkeley Richmond Field Station is based on information provided by UC Berkeley
- Area where greater than 2 feet of cinders were encountered; unsaturated zone cinders will be excavated for on-site treatment
- Treatment cells where excavated cinder will be treated with limestone
- Wetland areas

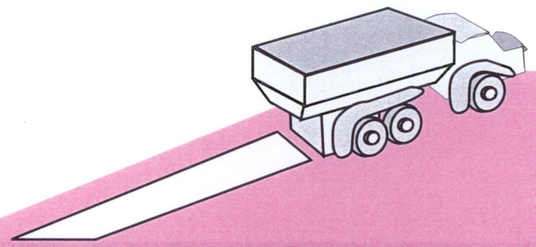
CELL		APPROX. CAPACITY
1	600' x 300' x 1' =	**6500 cy**
2	600' x 300' x 1' =	**6500 cy**
3	600' x 200' x 1' =	**4500 cy**
4	600' x 200' x 1' =	**4500 cy**

Notes:

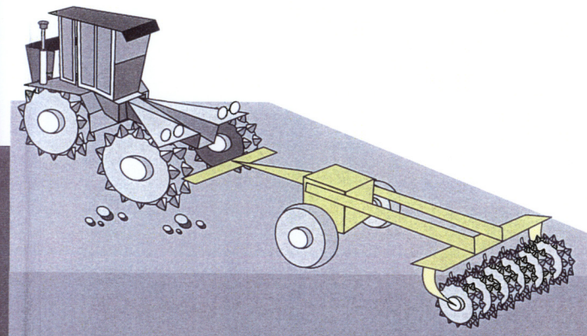
Treated cinder material will be placed on site beneath the cap.

300 0 300 FEET

LIMESTONE SPREADING



LIMESTONE MIXING



BASE LAYER OF CINDERS TREATED WITH LIMESTONE

1 FOOT LIFTS

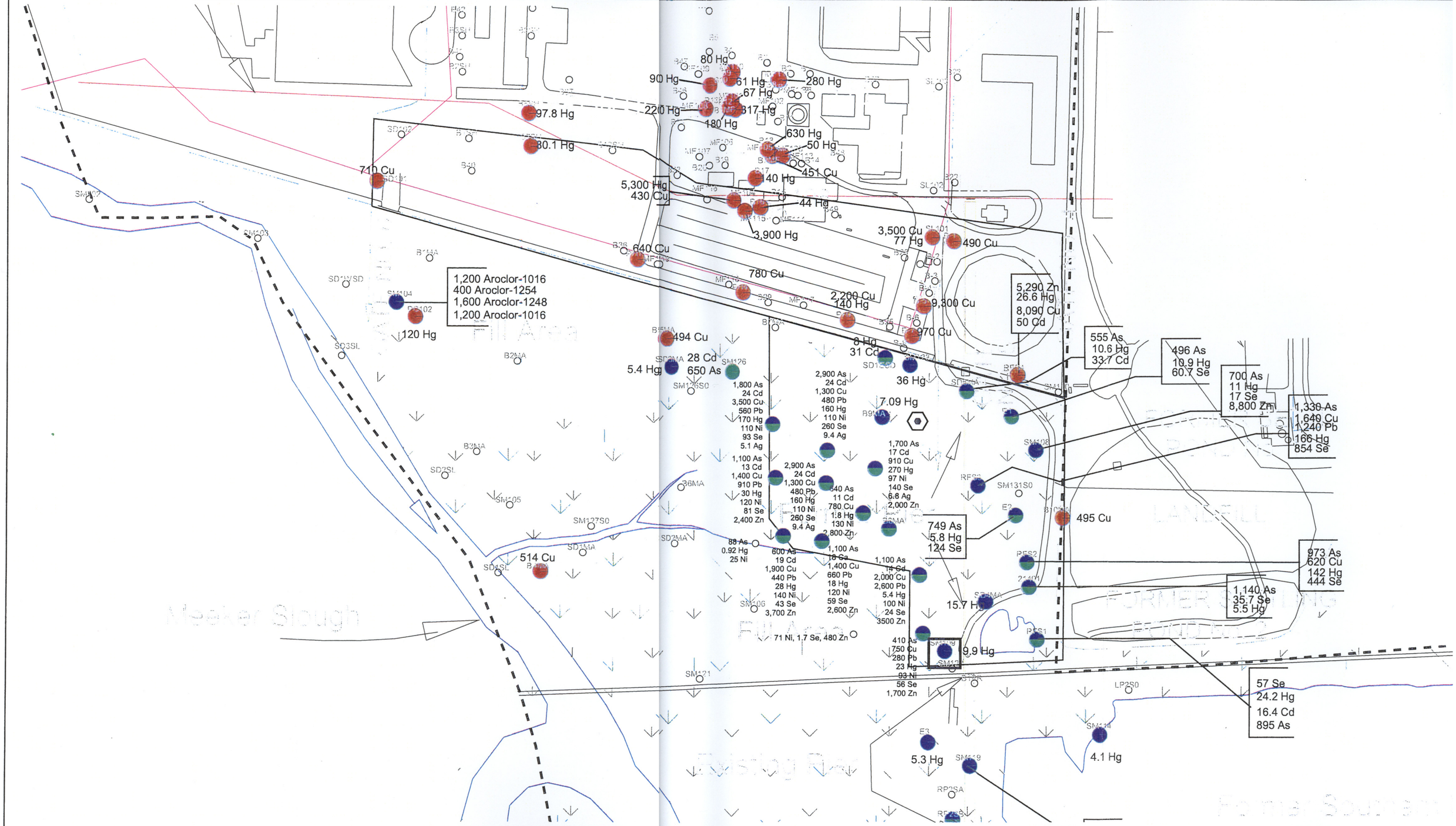
UNSATURATED CINDER.CDR 081400

Unsaturated Zone Neutralization Conceptual Implementation Plan

Zeneca Richmond Facility, Richmond, California

LFR LEVINE • FRICKE

Figure 4



LEGEND

Ecological Receptors

- Red-tailed Hawk
- Salt Marsh Harvest Mouse
- California Clapper Rail

Euhaustorius (Solid Phase) - 0% survival

Benthic Community Survey (No benthic organisms observed)

150 0 150 Feet

NOTES :

Project No.
51-09967067.00

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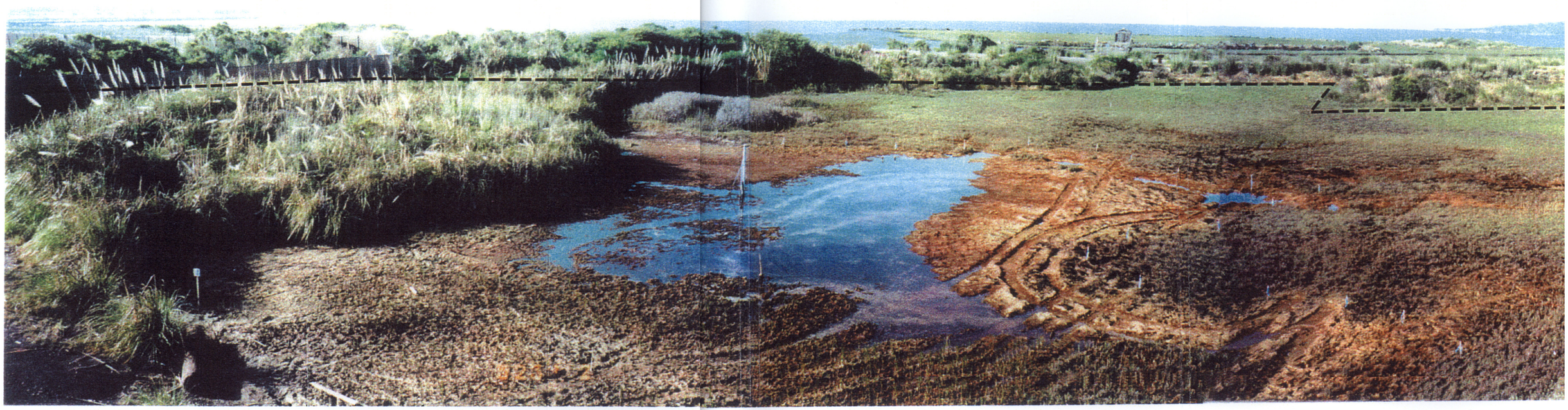
University of California, Berkeley
Richmond Field Station

URS

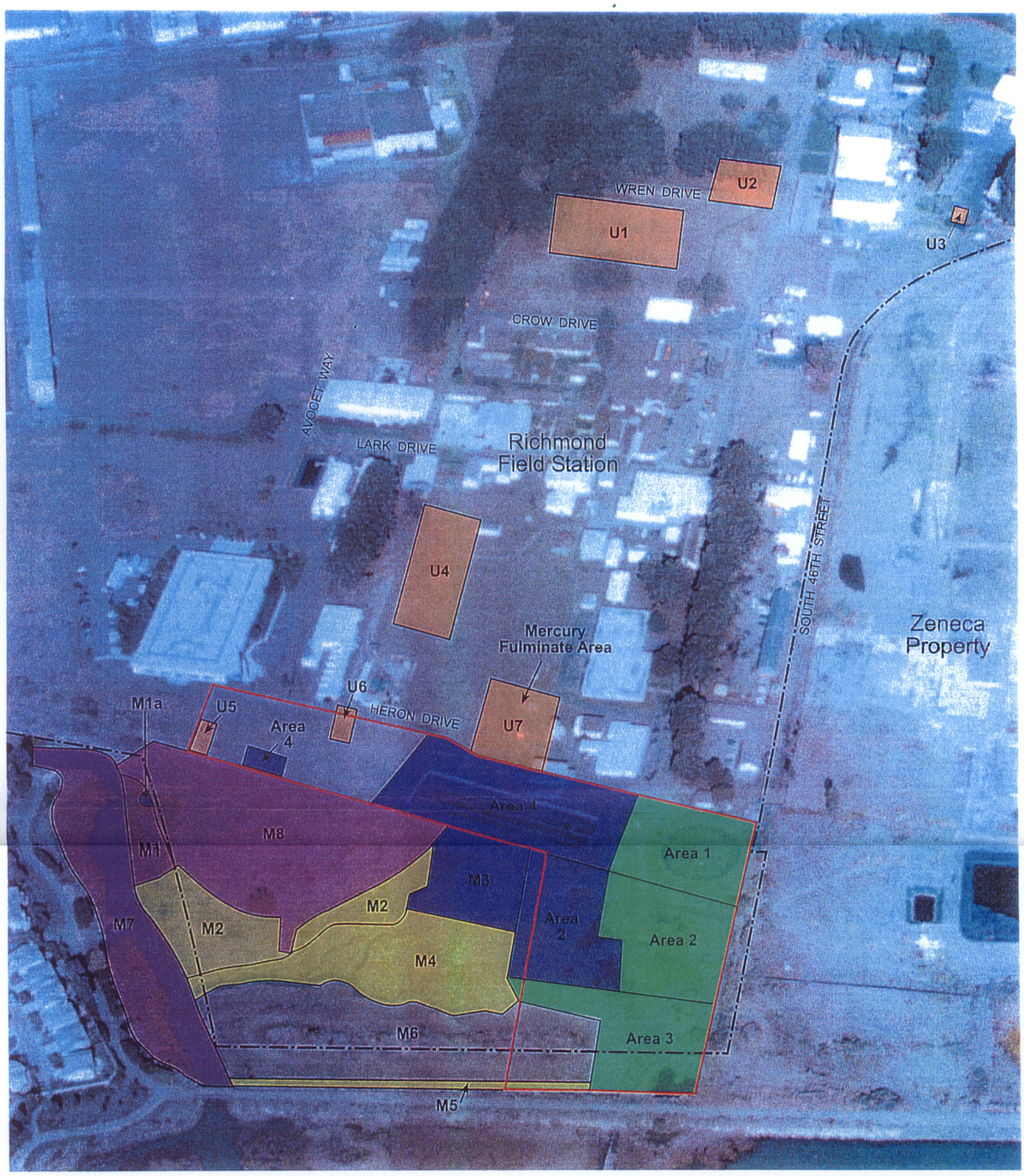
Tier 2 Evaluation of Effects to Wildlife (E-SSTL Exceedances)

May 2002 | Scale 1"= 125' | Figure 5



Pre-existing Conditions
Subunit 2A
Western Stege Marsh

Figure 6



LEGEND

Remediation Schedule

Phase 1	2002 (UCB FY 2002/2003)	**Area 1** = Subunit 2A Area 1
Phase 2	2003 (UCB FY 2003/2004)	**U1** = Subunit 3B Upland AOC 1
Phase 3	2004 (UCB FY 2004/2005)	**M1** = Subunit Marsh AOC 1
Phase 4	2005 (UCB FY 2005/2006)	
Phase 5	2006 (UCB FY 2006/2007)	

Subunit 2A Boundary

Property Boundary

Notes:

1. Areas are approximate and will be refined based upon 2003 additional chracterization results and CAL EPA approval.
2. Shaded areas indicate boundary of area to be addressed during the identified remedial phase. Remedial activities being considered for each area include excavation, capping, in-place management or a combination of these activities.

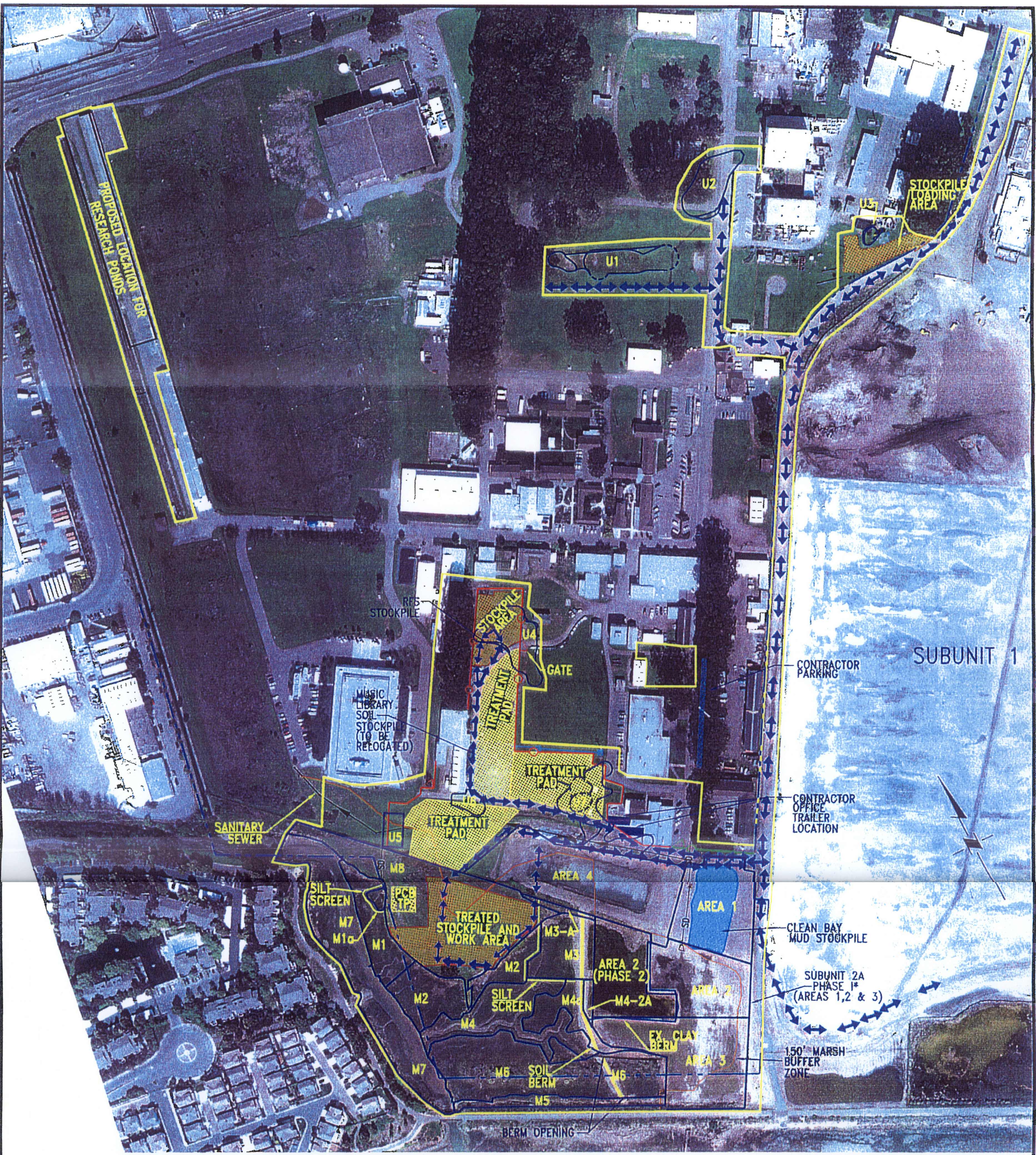
N

0 100 200

feet
(approximate scale)

URS	Project No. 26814100 UC Berkeley Richmond Field Station	PROPOSED PHASED REMEDIATION SCHEDULE	Figure 7

26814100-8A340/041403/gos



LEGEND

- MARSH 150' BUFFER ZONE
- SILT SCREEN
- EXISTING SOIL BERM
- EXISTING CLAY BERM
- TEMPORARY FENCE
- EXISTING TEMPORARY FENCE
- FENCE GATE (ALL FENCES)
- PROPOSED HAUL ROUTES
- TREATMENT PAD
- STOCKPILE AND WORK AREAS
- CLEAN STOCKPILE
- APPROX. AOC BOUNDARY
- 12 KV OVERHEAD WIRES
- SD — STORM DRAIN
- TP — TREATMENT PAD
- SANITARY SEWER
- EASTERN STORM DRAIN OUTFALL
- PROJECT AREA BOUNDARY
- PROPERTY LINE

*NOTE: REMEDIAL ACTIVITIES FOR PHASE 1 HAVE BEEN COMPLETED AND THE RESTORATION DESIGN IS CURRENTLY BEING DEVELOPED AND NEGOTIATED WITH THE APPROPRIATE STATE AND FEDERAL AGENCIES

0 130 260 NOT TO SCALE	URS	University of California, Berkeley Richmond Field Station 26814100	PROJECT AREA, AOC LOCATIONS, AND ASSOCIATED REMEDIAL DESIGN ACTIVITIES	Figure 8

LEGEND

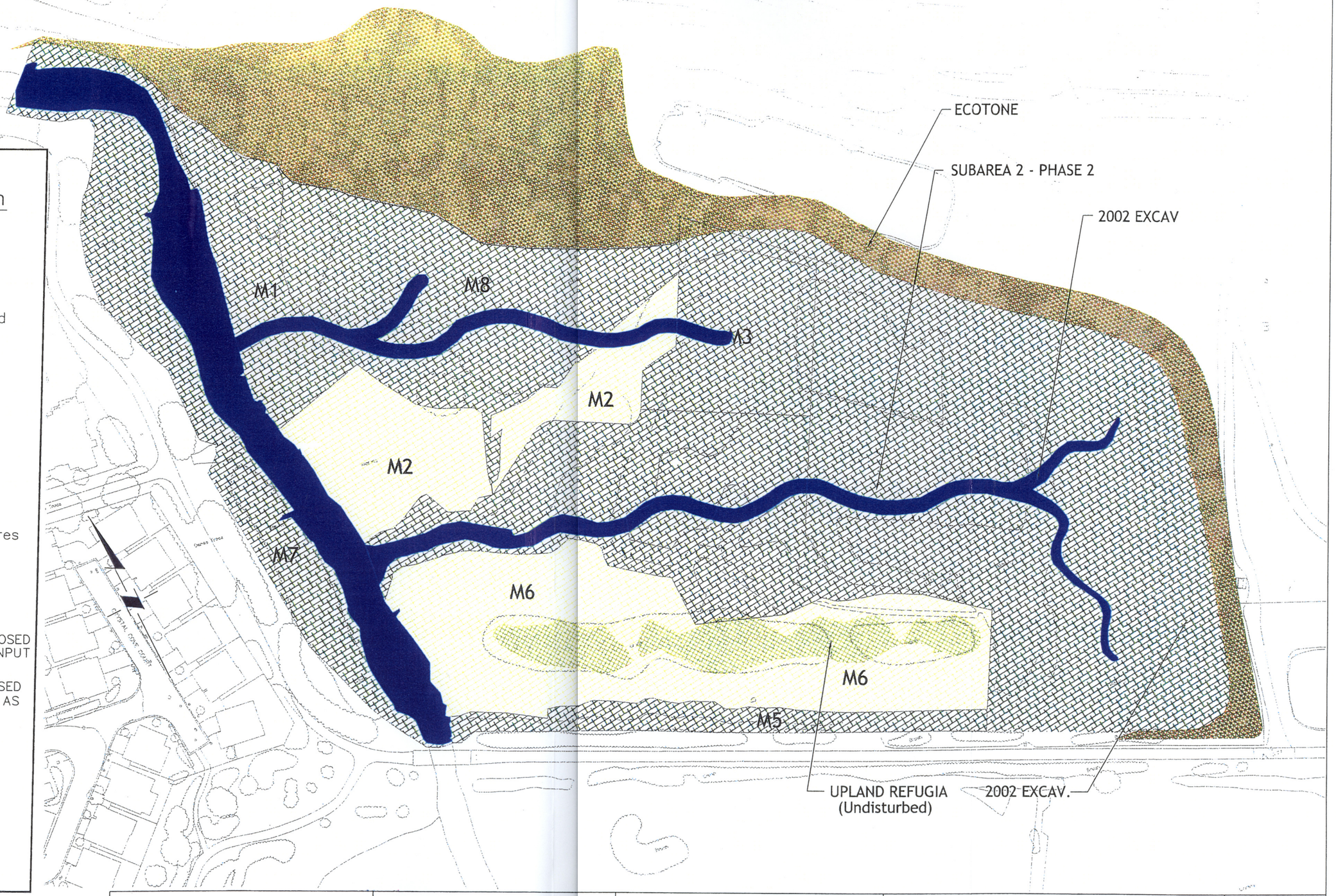
Approximate Post Mitigation Acreages

Acres Created

- Wetland Acreage Created
- Waters Created
- *Ecotone Created
- Areas M6 and M2 Undisturbed Areas

Total Lost = Approx. 7.1 Acres
Total Created = Approx.11.8 Acres
Ratio = 1.66:1

1) ACREAGES ARE APPROXIMATE
2) HABITAT TYPES FOR PROPOSED RESTORATION AREAS WILL BE PROPOSED DURING DESIGN PHASE BASED ON INPUT FROM AGENCIES
3) BOUNDARY OF MITIGATION AREA BASED ON RWQCB SUBUNIT 2 BOUNDARIES AS DESIGNATED IN ORDER 01-102



0 50 100
SCALE: 1"=100'

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26814100

Western Stege Marsh
Post Remeditaion
Mitigation Areas

Figure
9